

ER-2 #806 07/21/17

Aircraft: [ER-2 - AFRC #806](#) ([See full schedule](#))

Flight Number: 17-6050

Payload Configuration: SHOW

Nav Data Collected: Yes

Total Flight Time: 5.5 hours

Comments: 806 took off at 1501 GMT; landed at 2033 GMT for a 5.5 hour mission. Instrument operations were nominal from the pilot's perspective. The SHOW flight plan was to fly an out-and-back, north over the ocean, just off the west coast, to just south of the Canadian border then return following the same flight path. The reason for flying over the ocean is that typically, there is less atmospheric turbulence at altitude. The pilot flew an ER-2 Mach-hold setting (M=0.68) northbound until the turnaround. Airplane pitch angle was held at 0.5 deg plus-or-minus 0.3 deg. Flying south, the pilot used a pitch-hold setting. Pitch-hold was initiated at 18:04 GMT. At maximum pressure altitude, the pitch was held at 0.5 deg plus-or-minus 0.2 deg. The pilot noted that he needed to be patient in the cockpit and that airplane pitch was "tighter" during pitch-hold than for Mach-hold. The pilot also noted that it would only take a little turbulence to upset maintaining constant pitch angle. For future SHOW missions, the pilot said the ER-2 airplane should be flown in "flared mode". The temperature at ER-2 cruising altitude at the north end of route was -55 deg F; at the south end the temperature was -59 deg F. The SHOW team commented several times on how impressed they were on how well the pilot held pitch. The SHOW team was ecstatic about today's successful first science mission of the SHOW instrument. Today's flight completes this phase of the SHOW flight campaign. The SHOW team plan to return in January, 2018 to fly with the upgraded ASMLS (now called CAMLS) instrument. Tim Williams was the pilot.

Submitted by: Kevin Walsh on 07/26/17

Flight Segments:

From:	Palmdale, CA	To:	Palmdale, CA
Start:	07/21/17 15:01 Z	Finish:	07/21/17 20:33 Z
Flight Time:	5.5 hours		
Log Number:	172010	PI:	Adam Bourassa
Funding Source:	Daniel Gratton - CSA - Advanced Payload Development Manager		
Purpose of Flight:	Science		
Comments:	The purpose of today's SHOW flight was to conduct the first science flight of the SHOW instrument.		

Flight Hour Summary:

	162007	172010	182018	192006
Flight Hours Approved in SOFRS		20	10	
Flight Hours Previously Approved			8.4	18.4
Total Used	0	11.6	0	0
Total Remaining				18.4

172010 Flight Reports

Date	Flt #	Purpose of Flight	Duration	Running Total	Hours Remaining	Miles Flown
07/13/17	17-6048	Check	2.4	2.4	17.6	
07/18/17	17-6049	Check	3.7	6.1	13.9	
07/21/17	17-6050	Science	5.5	11.6	8.4	

Source URL: https://airbornescience.nasa.gov/flight_reports/ER-2_806_07_21_17#comment-0

Page Last Updated: April 22, 2017

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Flight Reports began being entered into this system as of 2012 flights. If there were flights flown under an earlier log number the flight reports are not available online.